April 19, 2004

Edwin L. Mongan, III
Manager, Environmental Stewardship
E.I. du Pont de Nemours & Company, Inc.
Safety, Health & Environmental Excellence Center
1007 Market Street
DuPont 6082
Wilmington, DE 19898

Dear Mr. Mongan:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for Triisopropylborate posted on the ChemRTK HPV Challenge Program Web site on December 17, 2003. I commend E.I. du Pont de Nemours & Company, Inc. for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that DuPont advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission. Please send any electronic revisions or comments to the following e-mail addresses: oppt.ncic@epa.gov and chem.rtk@epa.gov.

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the "Contact Us" link on the HPV Challenge Program Web site pages or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsca-hotline@epa.gov.

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

-S-

Oscar Hernandez, Director
Risk Assessment Division

Enclosure

cc: W. Penberthy
M. E. Weber

EPA Comments on Chemical RTK HPV Challenge Submission:
Triisopropylborate

Summary of EPA Comments

The sponsor, E.I. du Pont de Nemours & Company, Inc., submitted a test plan and robust summaries to EPA for Triisopropylborate (TIPB, CAS No. 5419-55-6) dated November 10, 2003. EPA posted the submission on the ChemRTK HPV Challenge Web site on December 17, 2003.

EPA has reviewed this submission and has reached the following conclusions:

1. Physicochemical Properties. The data provided by the submitter for these endpoints are adequate for the purposes of the HPV Challenge Program. The submitter needs to indicate whether the vapor pressure value provided is measured or estimated.

2. Environmental Fate. The data provided by the submitter for these endpoints are adequate for the purposes of the HPV Challenge Program. EPA agrees with the submitter's proposal to test for stability in water following OECD TG 111. The submitter needs to add inoculum information in its biodegradation robust summary.

3. Health Effects. EPA agrees that data are needed for repeated-dose, developmental and reproductive effects. However, if hydrolysis is sufficiently rapid at the physiologically important pH of 1.2 in the stability in water test, then data on the break-down products could be used to address these endpoints. EPA disagrees that the test assessing gene mutation is adequate. Additional details are needed.

4. Ecological Effects. EPA reserves judgement on the adequacy on all ecological endpoints (i.e., fish, aquatic invertebrate, and aquatic plants) pending the results of the proposed testing for stability in water.

EPA Comments on the Triisopropylborate Challenge Submission

Test Plan

Physicochemical Properties (melting point, boiling point, vapor pressure, partition coefficient, water solubility)

The data provided by the submitter for melting point, boiling point, partition coefficient, and water solubility are adequate for the purposes of the HPV Challenge Program.

Vapor pressure. The submitter needs to indicate whether the vapor pressure value provided is measured or estimated.

Environmental Fate (photodegradation, stability in water, biodegradation, fugacity)

The data provided by the submitter for photodegradation and fugacity are adequate for the purposes of the HPV Challenge Program.

Stability in water. EPA agrees with the submitter's proposal to test for this endpoint following OECD TG 111.

Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity)

Adequate information was available for acute toxicity. No data were provided for repeated-dose, developmental and reproductive effects and a combined test addressing these endpoints (OECD TG 422) was proposed. However, if hydrolysis is sufficiently rapid at the physiologically important pH of 1.2 in the stability in water test, then data on the break-down products (isopropanol and boric acid) could be used to address these endpoints. Testing was proposed for assessing chromosomal aberrations (OECD TG 473). Information provided on the reverse mutation assay in *Salmonella typhimurium* was missing details concerning the conditions of the test and whether a closed-system was used. If volatility is more predominant than hydrolysis under the conditions of the test then a closed-system approach is needed.

Ecological Effects (fish, invertebrates, and algae)

Information from the proposed test for stability in water is needed for determining the appropriateness of using data for the predicted break-down products, isopropanol and boric acid, for defining the ecological effects of triisopropylborate. EPA reserves judgement on the adequacy of the ecological endpoints pending the results of the proposed test for stability in water.

Specific Comments on the Robust Summaries

Environmental Fate

Biodegradation. The submitter needs to add information on the inoculum used.

Health Effects

Acute Toxicity. The submitted summary for the acute oral toxicity study in rats only reported the test substance as “pure,” but did not provide a specific percentage for the constituents.

The submitted summary for the acute oral toxicity study in mice was missing study details such as concentrations tested, number of animals used per concentration, sex of animals used, mortality/effects per concentration, and statistical methodology.

Genetic Toxicity. The submitted summary for the bacterial reverse mutation assay was missing information indicating whether a closed-system was used. Other missing details include the specific purity of the test substance, the number of replicates per concentration, the number of revertant colonies per plate, positive and negative control response, statistical methodology used.

Ecological Effects

Fish. Details missing from the submitted robust summary for acute fish toxicity of isopropanol included concentrations tested, purity of the test substance, mortality and effects per concentration, number of animals used per concentration, control response, and the loading rate of the fish.

Information missing from the submitted robust summaries for acute fish toxicity of boric acid included concentrations tested, use of control, mortality and effects per concentration, number of groups of animals per concentration, test substance purity, and water chemistry parameters.

Invertebrates. Details missing from the submitted robust summaries for acute aquatic invertebrate toxicity of isopropanol included test substance purity, concentrations tested, test system type, number of animals tested per concentration, number of duplicate experiments, loading rate of the animals, use of a control, mortality and effects per concentration, and water chemistry parameters.

Details missing from the submitted robust summaries for acute aquatic invertebrate toxicity of boric acid included test substance purity, concentrations tested, number of duplicate tests, loading rate of the daphnids, age of daphnids, mortality and effects per concentration, and control response.

Followup Activity

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.